

Listing of the Claims:

This listing of claims is presented for convenience only. No amendments are being made to the claims currently on file.

Listing of Claims:

1. (Previously presented) A 1-benzotriazolylcarbonate ester of a water-soluble and non-peptidic polymer (polymer-BTC ester), prepared by a method comprising the steps of:

(i) providing a water-soluble and non-peptidic polymer having at least one terminal hydroxyl group; and

(ii) reacting the terminal hydroxyl group of the water-soluble and non-peptidic polymer with di(1-benzotriazolyl)carbonate to form a 1-benzotriazolylcarbonate ester of the water-soluble and non-peptidic polymer.

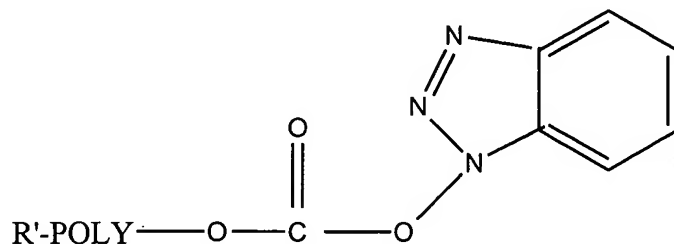
2. (Previously Presented). The polymer-BTC ester of Claim 1, wherein the water-soluble and non-peptidic polymer is selected from the group consisting of poly(alkylene glycol), poly(oxyethylated polyol), poly(olefinic alcohol), poly(vinylpyrrolidone), poly(hydroxypropylmethacrylamide), poly(α -hydroxy acid), poly(vinyl alcohol), polyphosphazene, polyoxazoline, poly(N-acryloylmorpholine), and copolymers, terpolymers, and mixtures thereof.

3. (Previously Presented). The polymer-BTC ester of Claim 1, wherein the water-soluble and non-peptidic polymer is poly(ethylene glycol).

4. (Previously Presented). The polymer-BTC ester of Claim 3, wherein the poly(ethylene glycol) has an average molecular weight from about 200 Da to about 100,000 Da.

5. (Previously Presented). The polymer-BTC ester of Claim 1, wherein the water-soluble and non-peptidic polymer in step (i) has from about 2 to about 300 termini.

6. (Previously Presented). The polymer-BTC ester of Claim 1, wherein the water-soluble and non-peptidic polymer in step (i) has the structure R'-POLY-OH and the 1-benzotriazolylcarbonate ester of the water-soluble and non-peptidic polymer has the structure:



wherein POLY is a water-soluble and non-peptidic polymer backbone and R' is a capping group.

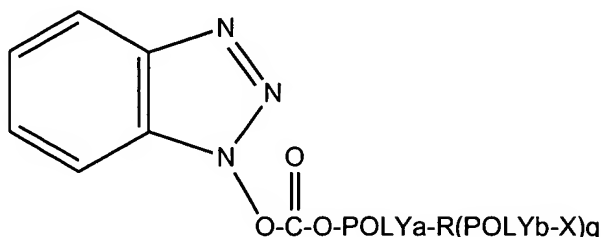
7. (Previously Presented) The polymer BTC ester of Claim 6, wherein POLY is poly(ethylene glycol).

8. (Previously Presented) The polymer BTC ester of Claim 7, wherein the poly(ethylene glycol) has an average molecular weight from about 200 Da to about 100,000 Da.

9. (Previously Presented) The polymer BTC ester of Claim 6, wherein R' is methoxy.

10. (Previously Presented) The polymer BTC ester of Claim 6, wherein R' is a functional group selected from the group consisting of hydroxyl, protected hydroxyl, active ester, active carbonate, acetal, aldehyde, aldehyde hydrates, alkenyl, acrylate, methacrylate, acrylamide, active sulfone, protected amine, protected hydrazide, thiol, protected thiol, carboxylic acid, protected carboxylic acid, isocyanate, isothiocyanate, maleimide, vinylsulfone, dithiopyridine, vinylpyridine, iodoacetamide, epoxide, glyoxal, dione, mesylate, tosylate, and tresylate.

11. (Previously Presented) The polymer BTC ester of Claim 1, wherein the water-soluble and non-peptidic polymer in step (i) has the structure HO-POLYa-R(POLYb-X)_q and the 1-benzotriazolylcarbonate ester of the water-soluble and non-peptidic polymer has the structure:



wherein POLYa and POLYb are water-soluble and non-peptidic polymer backbones that may be the same or different;

R is a central core molecule;

q is an integer from 2 to about 300; and

each X is a capping group.

12. (Previously Presented) The polymer BTC ester of Claim 11, wherein POLYa and POLYb are poly(ethylene glycol).

13. (Previously Presented) The polymer BTC ester of Claim 12, wherein POLYa and POLYb each have an average molecular weight from about 200 Da to about 100,000 Da.

14. (Previously Presented) The polymer BTC ester of Claim 11, wherein each X is independently selected from the group consisting of alkoxy, hydroxyl, protected hydroxyl, active ester, active carbonate, acetal, aldehyde, aldehyde hydrates, alkenyl, acrylate, methacrylate, acrylamide, active sulfone, protected amine, protected hydrazide, thiol, protected thiol, carboxylic acid, protected carboxylic acid, isocyanate, isothiocyanate, maleimide, vinylsulfone, dithiopyridine, vinylpyridine, iodoacetamide, epoxide, glyoxal, dione, mesylate, tosylate, and tresylate.

15. (Previously Presented) The polymer BTC ester of Claim 1, wherein said reacting step is conducted in an organic solvent.

16. (Previously Presented) The polymer BTC ester method of Claim 15, wherein the organic solvent is selected from the group consisting of methylene chloride, chloroform, acetonitrile, tetrahydrofuran, dimethylformamide, dimethyl sulfoxide, and mixtures thereof.

17. (Previously Presented) The polymer BTC ester of Claim 1, wherein said reacting step is conducted in the presence of a base.

18. (Previously Presented) The polymer BTC ester of Claim 17, wherein the base is selected from the group consisting of pyridine, dimethylaminopyridine, quinoline, trialkylamines, and mixtures thereof.

19. (Previously Presented) The polymer BTC ester of Claim 1, wherein the molar ratio of di(1-benzotriazolyl) carbonate to the water-soluble and non-peptidic polymer is about 30:1 or less.

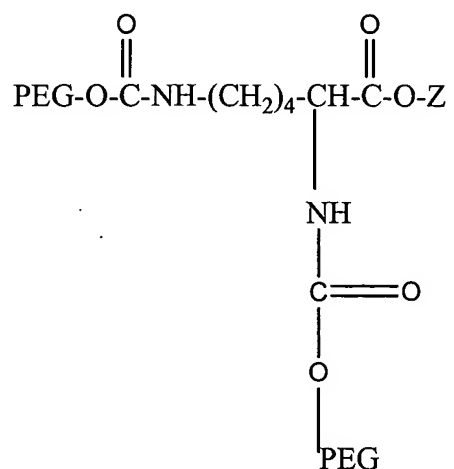
20. (Canceled)

21. (Canceled)

22. (Previously Presented) An amino acid derivative of the polymer BTC ester of Claim 1, wherein the method further comprises the step of reacting the 1-benzotriazolylcarbonate ester of the water-soluble and non-peptidic polymer with an amino acid to form an amino acid derivative thereof.

23. (Previously Presented) The amino acid derivative of the polymer BTC ester of Claim 22, wherein the amino acid is lysine.

24. (Previously Presented) The amino acid derivative of the polymer BTC ester of Claim 23, wherein the amino acid derivative has the structure:



wherein PEG is poly(ethylene glycol) and Z is selected from the group consisting of H, N-succinimidyl, or 1-benzotriazolyl.

25. (Previously Presented) A polymer conjugate prepared by reacting the 1-benzotriazolylcarbonate ester of the water-soluble and non-peptidic polymer of Claim 1 with a biologically active agent to form a polymer conjugate.

26. (Previously Presented) The polymer conjugate of Claim 25, wherein the biologically active agent is selected from the group consisting of peptides, proteins, enzymes, small molecule drugs, dyes, lipids, nucleosides, oligonucleotides, cells, viruses, liposomes, microparticles and micelles.

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Canceled)

31. (Previously Presented) The polymer conjugate of Claim 25, wherein the biologically active agent comprises an amino group.

32. (Previously Presented) A polymer conjugate prepared by reacting the 1-benzotriazolylcarbonate ester of the water-soluble and non-peptidic polymer of Claim 3 with a biologically active agent to form a polymer conjugate.

33. (Previously Presented) A polymer conjugate prepared by reacting the 1-benzotriazolylcarbonate ester of the water-soluble and non-peptidic polymer of Claim 24 with a biologically active agent to form a polymer conjugate.

34. (Previously Presented) The polymer-BTC ester of Claim 3, wherein the poly(ethylene glycol) has a structure selected from the group consisting of multi-armed, forked, branched, and pendent.

35. (Previously Presented) The polymer conjugate of claim 32, wherein said biologically active agent is a peptide or protein, and said conjugate comprises a carbamate linkage between said protein or peptide and said polymer.

36. (Previously Presented) The polymer conjugate of claim 32, wherein said biologically active agent is a small molecule.

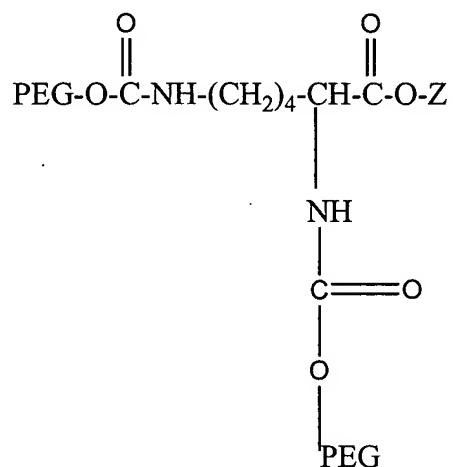
37. (Previously Presented) A method for making a polymer conjugate, said method comprising reacting the polymer BTC ester of claim 1 with a biologically active agent under conditions effective to form a polymer-active agent conjugate.

38. (Previously Presented) A method for making a polymer conjugate, said method comprising reacting the polymer BTC ester of claim 3 with a biologically active agent under conditions effective to form a polymer-active agent conjugate.

39. (Previously Presented) The method of claim 38, wherein said biologically active agent is selected from the group consisting of peptides, proteins, enzymes, small molecule drugs, dyes, lipids, nucleosides, oligonucleotides, cells, viruses, liposomes, microparticles and micelles.

40. (Previously Presented) The method of claim 39, wherein said biologically active agent comprises an amino group.

41. (Previously Presented) The method of claim 38, wherein said polymer BTC ester possesses the structure:



wherein PEG is poly(ethylene glycol) and Z is selected from the group consisting of H, N-succinimidyl, or 1-benzotriazolyl.

42. (Previously Presented) The method of claim 40, wherein said biologically active agent is a peptide or a protein.

43. (Previously Presented) The method of claim 38, wherein said poly(ethylene glycol) has a structure selected from the group consisting of multi-armed, forked, branched, and pendent.

44. (Previously Presented) The method of claim 38, wherein said biologically active agent is a peptide or a protein.

45. (Previously Presented) The method of claim 43, wherein said reacting step produces a conjugate mixture comprising one or more of the following: mono-PEGylated peptide or protein, di-PEGylated peptide or protein, tri-PEGylated peptide or protein, and tetra-PEGylated peptide or protein.